

## CLAIMS

1. A radio base station system formed of one master base station (1a), a plurality of slave base stations (1b), and a control device (30) controlling the master base station (1a) and the slave base stations (1b), wherein
  - 5 the slave base station (1b) includes:
    - frame synchronizing means (11b) for synchronizing a frame of said slave base station (1b) with a frame of the master base station (1a), and
    - slot setting means (12b) for setting, as a reception control slot, a predetermined reception slot in the frame of said slave base station (1b) matching in timing with a reception control slot in the frame of the master base station (1a);
  - 10 each of the base stations (1a, 1b) includes:
    - reception level obtaining means (13a, 13b) for obtaining a reception level of said set reception control slot when a link channel establishment request message is received in said set reception control slot, and
    - 15 traffic channel allocating means (20a, 20b) for allocating a traffic channel with respect to a mobile station transmitting the link channel establishment request message to predetermined transmission and reception slots in the frame according to a traffic channel allocation instruction; and
  - 20 the control device (30) includes:
    - allocation instructing means (31) for receiving the reception level from each of the base stations (1a, 1b), determining the base station of the maximum reception level and transmitting the traffic channel allocation instruction to the determined base station.
- 25 2. The radio base station system according to claim 1, wherein
  - said traffic channel allocation means (20b) of the slave base station (1b) allocates the traffic channel to the reception slot satisfying predetermined conditions when said reception slot satisfying said predetermined conditions exists other than said

predetermined reception slot, and allocates the traffic channel to said predetermined reception slot when the reception slot satisfying the predetermined conditions does not exist.

- 5           3. The radio base station system according to claim 2, wherein  
said slave base station (1b) further includes:

10           traffic channel switching means (15b) for switching the slot for allocation of the traffic channel to the reception slot satisfying said predetermined conditions when the reception slot satisfying said predetermined conditions occurs among the reception slots other than said predetermined reception slot after the traffic channel is allocated to said predetermined reception channel.

- 15           4. A channel allocation method in a radio base station system formed of one master base station (1a), a plurality of slave base stations (1b) and a control device (30) controlling the master base station (1a) and the slave base stations (1b), comprising the steps of:

              causing the slave base station (1b) to synchronize a frame of said slave base station (1b) with a frame of the master base station (1a);

20           causing the slave base station (1b) to set a predetermined reception slot in the frame of said slave base station (1b) matching in timing with the reception control slot in the frame of the master base station (1a) as the reception control slot;

              causing each of the base stations (1a, 1b) to obtain a reception level of the set reception control slot when the base station (1a, 1b) receives a link channel establishment request message in said set reception control slot;

25           causing the control device (30) to receive the reception level from each of the base stations (1a, 1b), determine the base station of the maximum reception level and transmit a traffic channel allocation instruction to the determined base station; and  
              causing the base station receiving the traffic channel allocation instruction to

allocate a traffic channel with respect to a mobile station transmitting the link channel establishment request message to the predetermined transmission and reception slots in the frame.

5        5. The channel allocation method according to claim 4, wherein  
          said step of allocating the traffic channel of the slave base station (1b) is  
executed to allocate the traffic channel to the reception slot satisfying predetermined  
conditions when the reception slot satisfying the predetermined conditions exists other  
than said predetermined reception slot, and to allocate the traffic channel to said  
10      predetermined reception slot when the reception slot satisfying the predetermined  
conditions does not exist.

6. The channel allocation method according to claim 5, further comprising the  
step of:

15      switching the slot for allocation of said traffic channel to the reception slot  
satisfying said predetermined conditions when the reception slot satisfying said  
predetermined conditions occurs among the reception slots other than said  
predetermined reception slot after the traffic channel is allocated to said predetermined  
reception channel.

20      7. A channel allocation program in a radio base station system formed of one  
master base station (1a), a plurality of slave base stations (1b) and a control device (30)  
controlling the master base station (1a) and the slave base stations (1b), causes a  
computer to execute the steps of:

25      causing the slave base station (1b) to synchronize a frame of said slave base  
station (1b) with a frame of the master base station (1a);  
          causing the slave base station (1b) to set a predetermined reception slot in the  
frame of said slave base station (1b) matching in timing with the reception control slot in

- the frame of the master base station (1a) as the reception control slot;
- causing each of the base stations (1a, 1b) to obtain a reception level of the set reception control slot when the base station (1a, 1b) receives a link channel establishment request message in said set reception control slot;
- 5 causing the control device (30) to receive the reception level from each of the base stations (1a, 1b), determine the base station of the maximum reception level and transmit a traffic channel allocation instruction to the determined base station; and
- causing the base station receiving the traffic channel allocation instruction to allocate a traffic channel with respect to a mobile station transmitting the link channel
- 10 establishment request message to the predetermined transmission and reception slots in the frame.
8. The channel allocation program according to claim 7, wherein  
said step of allocating the traffic channel of the slave base station (1b) is  
executed to allocate the traffic channel to the reception slot satisfying predetermined  
15 conditions when the reception slot satisfying the predetermined conditions exists other  
than said predetermined reception slot, and to allocate the traffic channel to said  
predetermined reception slot when the reception slot satisfying the predetermined  
conditions does not exist.
- 20 9. The channel allocation program according to claim 8, further causing the  
computer to execute the step of:  
switching the slot for allocation of said traffic channel to the reception slot  
satisfying said predetermined conditions when the reception slot satisfying said  
predetermined conditions occurs among the reception slots other than said  
predetermined reception slot after the traffic channel is allocated to said predetermined  
25 reception channel.